

## ABSTRACT

The honeycomb structural body according to the present invention is the honeycomb structural body 1, in which a plurality of cells 3, penetrating between a pair 5 of end faces 4, 5 in the direction of the A axis and functioning as fluid passages, is formed and cordierite as a main constituent of cell walls 2 consists, in a chemical composition, of 30~45% by mass of alumina ( $Al_2O_3$ ), 11~17% by mass of magnesia ( $MgO$ ) and 42~57% by mass of silica ( $SiO_2$ ), and the honeycomb structural body of the present invention is possessed of the following 10 physical properties (1) through (5):  
(1) porosity: 55~75%,  
(2) open frontal area: 0.55 or more, less than 0.65,  
(3) mean pore size: 20~30  $\mu$  m,  
(4) compression strength in the A axis: 2.0 MPa or more, and  
15 (5) a ratio of the "compression strength in the A axis / Young's modulus":  $1.2 \times 10^3$  or more.